

LIVING

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Seasons of the night

Summer and fall have their own nocturnal schedules and rhythms

This week, I'd like to conclude my series on nocturnal nature by investigating some of the viewing and listening opportunities available in the summer and fall.

SUMMER

Early summer is a wonderful time to appreciate nature at night, especially for those who live in the country or are fortunate enough to spend time at a cottage.

As darkness begins to fall, the haunting song of the veery can be heard throughout the Kawarthas. It's almost as if this ethereal song is descending a spiral staircase. In some areas, the veery's song is joined by those of the common nighthawk and whip-poor-will. Both of these species, unfortunately, have decreased precipitously in numbers in recent years. However, the "jug-o-rum" call of the bullfrog is still a fairly common night sound in many parts of the Kawarthas. Males call repeatedly to attract a female and to advertise ownership of their tiny slice of wetland or lake edge territory. Sharing the same habitat, the green frog also make its presence known with a call sounding much like the pluck of a loose banjo string. From time to time, the slow, bird-like trill of the gray treefrog may also add its voice to the amphibian orchestra.



Drew Monkman
OUR CHANGING SEASONS

A totally different night music comes to us from out on the lakes themselves. Listen especially for the loon's yodel call. This complex vocalization starts with a wail which then changes into a series of yodel-like undulations. Given by the male, the call is territorial in nature and is most often heard between dusk and dawn.

If you are anywhere near water, bats may also be part of your dusk and night-time entertainment. July is a great bat-watching month, since the young are now starting to fly. Bats have to work very hard to catch their supper, since insects have actually evolved strategies to avoid becoming bat food. For example, some moths have ears that are sensitive to the bat's echolocation calls, so they just fly off in another direction. Others, such as tiger moths, actually produce their own ultrasonic sounds which advertise the fact that the moths are poisonous. Think of the sounds as an acoustic version of the monarch butterfly's over-the-top bright colours.

The night is full of interesting changes under the water, as well. Walleyes move to shallow water feeding locations at night such as underwater islands. They are the consummate nocturnal feeders, thanks mostly to their large eyes. Also active are small-mouth, large-mouth, and rock bass. Perch, on the other hand, are more a daytime species. At night, their day time schools scatter as the fish hunker down individually in the weeds, hoping to avoid being gobbled up by a predator. If there is a bright moon, other diurnal species such as pike may also feed actively, although their eyes are not really suited to the task.

Insect watching, too, has its charms at night. Most of the tiny, delicate flies attracted to cottage and campground lights at night are midges. They resemble mosquitoes but lack the biting mouth parts. By mid-summer, the presence of crickets becomes very noticeable, too, as they call throughout much of the night. Most of the cricket song comes from a small group known as ground crickets. Less than one centimetre in length, these extremely vocal insects create a non-stop wall of sound

both day and night. By mid-August, the snowy tree cricket may also add its song, usually on warm evenings right at dusk. Its rhythmic calling is one of the most beautiful sounds of late summer, and you can actually calculate the air temperature by the frequency of its calls!

Over in the garden, keep an eye open for hawk moths. Hovering in front of flowers, these large insects could easily be mistaken for small hummingbirds. Most have long, narrow wings and thick bodies. They are often highly aerobic, and some species can hover in place and even fly backwards. Hawk moths are such good pollinators that a number of plants have developed distinct pollination tactics to attract them. Some varieties of petunia, for example, emit a strong odor during the night specifically to attract hawk moths. These same moths will also visit one of our native plants, the evening primrose. The primrose is strongly scented with an alluring, lemony perfume. The flowers of the primrose open in the evening and close up during the day.

Nighttime also has a very profound affect on plant behaviour. At latitudes like ours, there are huge seasonal

changes in the length of the day or "photoperiod." There is therefore an advantage for organisms such as plants to be able to anticipate these seasonal changes in day length. In this way, the plants can adjust flowering or leaf-out to when the environmental conditions are most suitable. Plants want to flower, for example, when pollinators are most active. Key events in a plant's life such as flowering are therefore triggered by a photoperiod of a certain length. Many plants have a photoreceptor protein which can sense seasonal changes in night length. These proteins actually allow plants to measure the length of the night. Some plants require fewer than a certain number of hours of darkness before they can flower - the so-called long-day plants. They flower in the long days of late spring or early summer. Clover and bellflowers are two examples. Other plants require longer than a certain number of hours of darkness in order to flower. They are called short-day plants and include species like strawberries and chrysanthemums. Short-day plants flower either in early spring or late summer when days are shorter. A third group of plants can bloom any time, regardless of day

length.

Summer's warm and pleasant weather makes this a wonderful time for stargazing. The Summer Triangle and the Milky Way dominate the show. In fact, summer is when the Milky Way is at its most impressive, especially between 11 p.m. and 1 a.m. As for the Summer Triangle, it looms high in the northeast. Its three bright stars - Vega (in the constellation Lyra), Deneb (in the constellation Cygnus), and Altair (in the constellation Aquila) - make up the triangle. As for the moon, it travels low in the southern sky in summer. This means that summer moon shadows are much longer than those of winter. Finally, don't let summer end without taking in the Perseid meteor shower which occurs every year on Aug. 12.

FALL

As late summer rolls around, nighttime nature activity begins to fade a little. Although bird song has fallen silent, the contact calls of migrant songbirds can sometimes be heard as they stream southward by cover of night. Other late summer and fall sounds include the calls of coyotes. Listen espe-



KARL EGRESSY photo

A summer sunset (top) is one of nature's great visual displays, and a whole new world opens up after dark.

The ethereal song of the veery (left) is most often heard at dusk and dawn in summer.

The great horned owl (bottom) calls most actively on December nights



KARL EGRESSY photo



KARL EGRESSY photo

Lights out for Earth Hour

Night is not what it used to be. The expansion of human activities into rural areas has brought many nocturnal animals into contact with artificial night lighting for the first time in their evolutionary history.

This is proving especially damaging to many moth species, migratory birds, as well as amphibians.

So-called light pollution also makes it difficult to truly appreciate the night sky. So, at 8:30 p.m. on March 28, join people around the world by turning off your lights for one hour - Earth Hour.

Members of the Peterborough Astronomical Association will have their telescopes set up on Armour Hill to view the night sky and, if the sky is clear, Saturn should be spectacular.

cially for their high-pitched "yip-yip-yihwool" that they make in late evening and near day break. There is even a possibility in late summer and fall that you might hear the call of a southern insect species, the true katydid. They have been heard in Peterborough several times in recent years. The male's grating call is a regular repetition of extremely loud, coarse, multi-pulse chips with an almost electric quality.

As we move into September, cool morning temperatures cause water vapour in the air to condense and therefore become visible. These morning mists are especially heavy in valleys and over lakes. When evening comes around, be sure not to miss the Harvest Moon which is the moon closest to the fall equinox. It appears very large at moonrise and seems to linger above the horizon as it follows a shallow angle up into the sky. The Harvest Moon provides a beautiful bonus of light well into the evening. Autumn nights are also an ideal time to explore the Milky Way since it is right overhead in the early evening. Pegasus and group of surrounding stars, the Great Square, is the best known constellation of the fall. By October, you can even get a preview of the winter constellation, Orion, by checking the southern sky just before dawn.

If the weather has been dry for many days and a night rain suddenly comes, you can often see massive frog migrations on September and October nights. Frogs prefer to travel during warm, wet weather by cover of darkness as they make their way towards hibernation sites. The long, cool nights of fall also bring about an interesting phenomenon in our lakes. The surface waters cool down to the same temperature (4 C) as the uniformly cold deeper waters below. All the water now has the same resistance to currents, causing the lake to "turnover" so that the surface water thoroughly mixes with the deeper waters. In the process, the entire lake becomes oxygenated.

By late fall, early snowfalls reveal the nocturnal world of mammal movements. Squirrels, mice and voles are just a few of the many species that leave their tracks for us to decipher. December nights bring us the peak calling period for both eastern screech and great horned owls. Finally, late December is the time of the winter solstice, marking the shortest day and longest night of the year.

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